

### ABSTRACT OF THE DISCLOSURE

A method of analyzing the condition of a motor driven rotating system using a current waveform produced by the motor. The motor position is initially identified from the current waveform produced by the motor and more particularly, a step of identifying the segment switching of the motor is performed to identify the system position with reference to individual rotations of the motor. The current waveform is then normalized to a preselected number of data points, each rotation being described by the preselected number of data points, such that the current waveform is converted from the time domain to a spatial domain corresponding to positions of the system. Subsequently, a frequency analysis is performed to identify frequencies corresponding to characteristics of the system, including calculating a frequency dependent distribution of the normalized current waveform to determine the energy content of the waveform at particular frequencies.